Mouse Information

Common Name: Rosa26\textsubscript{mIre1.N906A.Cherry}

MGI Official Name: Rosa26\textsubscript{mIre1.N906A.CherryMgn}

Description: This mouse contains bidirectional TetO-regulated genes inserted into the Rosa26.LCA allele by RMCE. In one direction the TetO/CMV promoter drives the expression of point mutant (N906A) of IRE1, an ER transmembrane kinase response to unfolded protein response (UPR). In the other direction it drives the expression of red fluorescent protein mCherry. This mouse can be used to simultaneously over-express Ire1 (N906A) and mCherry upon administration of doxycyline when the effector protein rtTA is expressed. This line can be used to study the roles of IRE1 in the response to ER stress, diet induced obesity and insulin resistance.

Categories: Fluorescent Probes, Tet

Genetic Alterations

1) RMCE Targeted Mutagenesis

Type of Allele: Cassette Acceptor

Targeted Gene: gene trap ROSA 26, Philippe Soriano (Gt(ROSA)26Sor - NCBI GeneID:14910)

Targeted Allele: targeted mutation 1 (Rosa26\textsubscript{tm1(LCA)} - MGI:104735)

Description of Targeting Vector: The Rosa 26 cassette acceptor allele was created by replacing a 5.165 kb region of this gene containing exon 1 with a floxed tk-neo cassette, a puromycin-delta-thymidine kinase fusion gene driven by the mouse phosphoglycerol kinase promoter (pU-deltaTK) and a neomycin resistant gene driven by the bacterial EM7 promoter (EM7neo) flanked by minimal (34 bp) tandemly oriented lox71 and lox2272 sites.

Targeting Vector Genbank File: pRosa26.LCA.gb

Recombinase-Mediated Cassette Exchange Stage

Type of Allele: Gene Replacement

Exchanged Cassette Gene: gene trap ROSA 26, Philippe Soriano (Gt(ROSA)26Sor - NCBI GeneID:104735)

Exchanged Cassette Allele Name: Rosa26.mIre1.N906A.Cherry

Description of Exchange Vector: The phygro.71.2272.mIre1N906A.Cherry exchange vector was made on a backbone of a basal exchange vector which contains Lox71/Lox2272 sites and a flrted (flanked by FRT) Pgk-Hygro cassette for positive selection of ES cells after RMCE. Bidirectional Tet-O regulated genes mCherry and Ire1(N906A) were inserted between Pgk-Hygro and Lox2272 sites.

Exchange Vector Genbank File: phygro66.2272.mIre1N906A.cherry.gb

Citations: Not Available

Strain Information

Strain Type: Mixed
Chimera/Founder Genetic Background: 129S6/SvEvTac
Current Genetic Background: C57BL/6J (date recorded: 11/27/2012)
Strain Description: Not provided

Associated Images

Image 1

Description: Not provided
Reference: Not provided

Repositories

Papa Lab

Stock #: Not provided
Availability Notes: Not provided

Contact Information

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Associated Publications

No publications associated

Comments

There are no comments for this entry.